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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

AUG -8 1990

MEMORANDUM

SUBJECT: Designation of Storm Water Discharges for Immediate Permitting

FROM: James R. Elder, Director
Office of Water Enforcement and Permits

TO: Water Management Division Directors
Regions I - X
NPDES State Directors

The Water Quality Act of 1987 (WQA) provides EPA and NPDES States with new deadlines for the development of NPDES permit requirements for storm water discharges. This memorandum is intended to inform Regional and State offices of the authority under the Act to continue or initiate efforts to permit storm water discharges that are causing environmental problems.

Background

Section 405 of the WQA amends the Clean Water Act (CWA) by adding section 402(p) to address storm water discharges. The Act provides a moratorium for certain storm water discharges from the requirement to obtain permits until after October 1, 1992. However, there are specific exceptions to this moratorium:

(A) A discharge with respect to which a permit has been issued under Section 402 before the date of enactment of section 402(p).

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more, but less than 250,000.

(E) A discharge for which the Regional Administrator or the State Director, as the case may be, determines that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.

The existing delegation of authority to Regional Administrators to issue and condition permits or to deny applications for permits for discharges pursuant to section 402 of the Clean Water Act includes the authority to implement section 402(p)(2)(E) (Delegations Manual 7/25/84, 2-20 NPDES). This authority may be redelegated to the Directors of the Regional Water Divisions, subject to the provisions of 40 CFR 124 and 125.

Section 402(p)(2)(A) preserves the ability to enforce existing permits. On December 7, 1988 (53 FR 49416), EPA issued a notice of proposed rulemaking (NPRM) addressing permit application requirements for discharges covered by sections 402(p)(2)(B) through (E). This memorandum will discuss implementation of section 402(p)(2)(E).

Discussion

Although EPA is currently amending regulatory requirements for permit applications for industrial and municipal storm water discharges, some storm water discharges have already been identified as representing significant sources of pollutants with discernible adverse effects on water quality and should be regulated through the permits program now. Regional Offices and NPDES approved States should designate those storm water discharges for permit issuance under the authority of section 402(p)(2)(E) as soon as possible after their impact is documented.

Storm water dischargers required to obtain an NPDES permit under section 402(p)(2)(E) can include dischargers from any conveyance or system of conveyances used for collecting and conveying storm water runoff including municipal separate storm sewer systems, storm water dischargers associated with industrial activity, and other dischargers from a point source. To be designated for a permit under section 402(p)(2)(E), the Administrator, or in States with approved NPDES programs, the Director, must determine that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

Section 502(14) of the CWA defines the term "point source" broadly to include "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel

or other floating craft, from which pollutants are or may be discharged." Many courts have supported broad interpretations of this term, for example, the court in Sierra Club v. Abston Construction Co., Inc., 620 F.2d 41 (5th Cir. 1980) found that conveyances formed either as a result of natural erosion or by material means, and which constitute a component of a drainage system, were point sources.

However, it should be noted that agricultural storm water discharges and return flows from irrigated agriculture are specifically excluded from the CWA definition of point source, and cannot be designated for a permit under section 402(p)(2)(E). In addition, Section 402(l)(2) prohibits EPA from requiring an NPDES permit for discharges of storm water runoff from mining operations or oil and gas operations composed entirely of storm water which is not contaminated by contact with, or does not come into contact with any overburden, raw material, intermediate products, finished product, by-product or waste products located on the site of such operations. Storm water discharges from mining operations or oil and gas operations which meet the criteria of section 402(p)(2)(E) as being either a significant contributor of pollutants to waters of the United States or contributing to a water quality standard violation either will be contaminated by contact with, or will have come into contact with overburden, raw material, intermediate products, finished product, by-product or waste products located on the site of such operations.

At a minimum, Regions and States should consider immediately designating any storm water discharges as requiring an NPDES permit if the discharges are known/suspected to:

1. Contribute to a violation of a water quality standard for a waterbody segment listed under section 304(l)(1)(B), or contribute significant amounts of pollutants to any waterbody segment listed under sections 304(l)(1)(A), 319(a)(1), or 314(a)(1)(F)[1].

2. Contribute significant amounts of pollutants to waters of the United States, including sensitive wetlands, drinking water sources, estuaries, lakes, scenic rivers/streams, or near coastal areas that are highly valued natural resources.

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[1] Many discharges of pollutants associated with urban runoff, construction, mining, agricultural (feedlots), and waste disposal have traditionally been considered nonpoint sources. However, legally, storm water from these sources discharged through conveyances are point sources under the CWA.

3. Originate from municipal separate storm sewer systems that have, or are suspected of having, process waste or sanitary wastes discharged to them.

4. Originate from municipal separate storm sewer systems that are suspected of containing a significant contribution of pollutants.

The four categories presented include (but are not limited to) discharges which require storm water permits. Each category is described and further clarified using example case histories categorized in the following pages.

1. **CONTRIBUTE TO A VIOLATION OF A WATER QUALITY STANDARD FOR A WATERBODY SEGMENT LISTED UNDER SECTION 304(l)(1)(B), OR CONTRIBUTE SIGNIFICANT POLLUTANTS TO ANY WATERBODY SEGMENT LISTED UNDER SECTIONS 304(l)(1)(A), 319(a)(1), OR 314(a)(1)(F).**

A. Contribute to a violation of a water quality standard for a waterbody segment listed under section 304(l)(1)(B), or contribute significant amounts of pollutants to any waterbody segment listed under section 304(l)(1)(A).

Section 304(l) of the CWA requires States to develop three lists of related waters impaired by toxic and nontoxic pollutants. The first list (section 304(l)(1)(A)(i)) includes waters that will not achieve numeric water quality standards for the 126 priority pollutants identified as toxic pursuant to section 307(a) of the CWA after application of CWA technology-based requirements. The second list (section 304(l)(1)(A)(ii)) is a comprehensive list of waters impaired by any pollutant from any source such that the water is not meeting the goals of the CWA after application of technology-based requirements. The section 304(l)(1)(B) list consists of those waters which, after application of technology-based requirements, are not expected to achieve numeric or narrative water quality standards due entirely or substantially to point source discharges of any of the 126 priority toxic pollutants. The fourth list (section 304(l)(1)(C)) is a list of point sources affecting the waterbodies on the section 304(l)(1)(B) list. On this fourth list, States must identify the specific point sources discharging the toxic pollutant responsible for the listing, and provide an individual control strategy (ICS) for each source. The statutory language for section 304(l)(1) is as follows:

> "State list of Navigable Waters and Development of Strategies. . .
>
> (A) a list of those waters within the State which after the application of effluent limitations required under

section 301(b)(2) of this Act cannot reasonably be anticipated to attain or maintain (i) water quality standards for such waters reviewed, revised, or adopted in accordance with section 303(c)(2)(B) of this Act, due to toxic pollutants, or (ii) that water quality which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water;

(B) list of all navigable waters in such state for which the State does not expect the applicable standard under section 303 of this Act will be achieved after the requirements of sections 301(b), 306, and 307(b) are met, due entirely or substantially to discharges from point sources of any toxic pollutants listed pursuant to section 307(a);

(C) for each segment of the navigable waters included on such lists, a determination of the specific point sources discharging any such toxic pollutant which is believed to be preventing or impairing such water quality and the amount of each such toxic pollutant discharged by each such source."

Waterbodies may be listed under section 304(l) because of storm water discharges associated with urban runoff, construction site runoff, mining runoff, or other runoff categories which contribute to a water quality standard violation. For waterbodies listed on the section 304(l)(1)(B) list, States or EPA must have identified the specific point source discharging the toxic pollutant by June 4, 1989. States must have developed an individual control strategy (ICS/NPDES permit) by June 4, 1989 or EPA in cooperation with States must have done so by June 4, 1990. If the storm water discharge does not have an NPDES permit that will control the point source and bring the waterbody into compliance with State water quality standards, then the discharge should be designated under section 402(p)(2)(E). After designation, the ICS should have been developed by June 4, 1990 in accordance with 304(l) regulatory requirements established on June 2, 1989 (54 FR 23868).

Paragraph (A)(ii) of section 304(l)(1) includes a listing of waterbodies which, after application of technology-based limits, fail to meet applicable water quality standards that assure the attainment of designated uses and the fishable/swimmable goals of the CWA. This list is comprehensive (i.e. it is not limited to waterbodies impaired by toxic pollutants); and where storm water discharges impair these listed waters, the storm water discharge

should be considered for designation and permit issuance under section 402(p)(2)(E).

Example

The lower Duwamish River, which empties into the Puget Sound in Washington, has been categorized as having extremely poor water quality, partly attributable to metals contamination. The major causes of the river's condition are industrial discharges, polluted storm water discharges, overland runoff, and combined sewer overflows. As a result, the lower Duwamish River was originally included on Washington's section 304(l)(1)(B) list. As part of the Puget Sound Estuary Program's activities, storm water discharges were characterized for pollutant loadings of metals and organics. Several storm drains were listed due to metals contributions under section 304(l)(1)(C). Since the original listings were submitted, however, the State has suggested that storm drains be delisted. If any storm drains remain on the section 304(l)(1)(C) list, an ICS/NPDES permit will be developed. For storm drains not listed, additional information should be collected; and if this information shows a contribution to a water quality impairment, such storm water discharges should be designated for permitting under section 402(p)(2)(E).

B. Contribute significant pollutants to any waterbody segment listed under section 319(a)(1).

Many storm water discharges have traditionally been considered to be nonpoint sources of pollution because of their diffuse and intermittent nature. Legally, however, they are considered point sources if discharged from a conveyance. Section 319(a)(1)(A) of the CWA requires States to identify in Nonpoint Source Assessment Reports those navigable waters within the State which, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or goals and requirements of the CWA. Section 319(a)(1)(B) requires States to identify those categories and subcategories of nonpoint sources which add significant pollution to navigable waters identified under section 319(a)(1)(A). These lists were required to be developed by States by August 4, 1988. Similarly, section 305(b) requires that water quality impacts from diffuse sources be identified. Discharges from storm water point sources may be classified in categories such as urban runoff or construction site runoff in these reports. The statutory language of section 319(a)(1) is as follows:

> "The Governor of each State shall, after notice and opportunity for public comment, prepare and submit to the Administrator for approval, a report which:

(A) identifies those navigable waters within the State which, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or the goals and requirements of the Act;

(B) identifies those categories and subcategories of nonpoint sources or, where appropriate, particular nonpoint sources which add significant pollution to each portion of the navigable waters identified under subparagraph (A) in amounts which contribute to such portion not meeting such water quality standards or such goals and requirements;"

As previously stated, identifiable categories under section 319(a)(1)(B) may include discharges that are associated with urban runoff, construction site runoff, mining runoff, etc. (i.e., those categories that are identified in the State Nonpoint Source Assessment Reports). After a State's Nonpoint Source Assessment Report is approved by the Regional Administrator, storm water discharges covered by section 402(p), which may be listed in the section 319 assessment that impact listed waterbodies, should be considered for designation under section 402(p)(2)(E).

Example

The Minnesota Pollution Control Agency lists Ryan Creek in its State Nonpoint Source Assessment Report as being impacted solely by storm sewers and surface runoff. The Report also lists Shingle Creek as being impacted by land development, storm sewers and surface runoff. Those storm water discharges that contribute to the impairment could be considered for designation and permitting under section 402(p)(2)(E).

C. Contribute significant pollutants to any waterbody segment listed under section 314(a)(1)(F).

As required by section 314, each State will conduct a two-part study to determine a lake's condition and develop methods and strategies for restoration and protection. Such information will specify the location and loading characteristics of significant sources polluting the lake. The statutory language appears in the following lines:

"Each State on a biennial basis shall prepare and submit to the Administrator for his approval --

(F) an assessment of the status and trends of water quality in lakes in such State, including but not limited to, the nature and extent to which the use of lakes is

impaired as a result of such pollution, particularly with respect to toxic pollution."

In accordance with section 314(a)(1)(F), States have already submitted Lake Water Quality Assessment Reports. These reports, in many cases, document the impact of storm water discharges on lakes, and were included as part of the State 305(b) Report. Where this information is provided in an Assessment Report that has been approved by the Regional Administrator, any storm water discharges included in the section 314(a)(1)(F) assessment (such as urban runoff, construction site runoff, mining runoff, etc.) which impact a given waterbody should be considered for designation under section 402(p)(2)(E).

Example

In the 1988 Lake Water Quality Assessment Report, the Illinois Environmental Protection Agency lists Levings Park Lagoon, Winnebago County as being water quality limited and partially supporting of one or more designated uses with moderate impairment. The principal source of impairment has been identified as urban runoff. Therefore, discharges resulting from the urban runoff that impact the Levings Park Lagoon could be considered for designation under section 402(p)(2)(E).

2. **SIGNIFICANTLY IMPACT SENSITIVE WETLANDS, DRINKING WATER SOURCES, ESTUARIES, LAKES, OR NEAR COASTAL AREAS THAT ARE HIGHLY VALUED NATURAL RESOURCES.**

Under section 402(p)(2)(E), the Regional Administrator or State Director must determine whether a storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. Based on such a determination, 402(p)(2)(E) designations should be considered for storm water discharges that significantly impact certain waters that warrant special consideration such as wetlands, lakes, scenic rivers/streams, high quality headwaters, estuaries, or coastal regions. Such waterbodies are often spawning, feeding, and nursery grounds for various species, and include sensitive habitats such as mangrove marshes, seagrass beds, and coral reefs. Storm water may enhance eutrophication of these water bodies, and contribute to an overall deterioration in water quality. BOD loads will generally lower the dissolved oxygen (DO) in receiving waters. Petroleum hydrocarbon loads in receiving waters may result from storm water discharges. Sediment loading from storm water runoff can settle to cover spawning habitat or can shade submerged vegetation and limit photosynthesis. Lakes and estuaries have long detention times and tend to concentrate nutrients, such as phosphorous and nitrogen, and other pollutants in the muds and water columns. Where such waterbodies are significantly impacted by storm water discharges, these discharges should be considered for

designation. The Regional Administrator or NPDES State Directors may use the Lake Water Quality Assessment Reports and other available information necessary to prioritize impacted waterbodies for discharge designation.

Example

The quality and productivity of the Chesapeake Bay and its tributaries have declined due to the impact of human activity that has caused increased levels of pollutants, nutrients, and toxics in the Bay system and declines in protective land uses, such as forested and undeveloped lands. Shoreline areas of the Bay system are particularly sensitive and susceptible to adverse impacts due to storm water discharges. Where storm water discharges, such as urban runoff, construction site runoff, mining runoff, etc., have been determined to represent a significant source of pollutants to a segment of the Bay or a particular stream segment of a Bay tributary, the discharge could be considered for designation under section 402(p)(2)(E).

3. **MUNICIPAL SEPARATE STORM SEWERS THAT ARE KNOWN TO HAVE OR SUSPECTED OF HAVING PROCESS WASTE OR SANITARY WASTES DISCHARGED TO THEM.**

Studies have shown that many storm sewers contain illicit discharges of non-storm water. In some municipalities, illicit connections of sanitary, commercial and industrial discharges to storm sewer systems have had a significant impact on the water quality of receiving waters. Removal of these discharges presents opportunities for improvement in the quality of storm water discharges.

Under the proposed storm water permit application regulations, municipalities with separate storm sewers serving a population over 100,000 must submit a management plan that requires screening for illicit discharges and improper disposal. Municipal separate storm sewer systems with identified improper discharges that significantly impact receiving waters should be considered for designation under section 402(p)(2)(E). Once designated, the affected municipality will be responsible for submitting a permit application. The permitting authority may request the municipality to submit a description of a storm water management plan, or any aspect of a management plan that may call for monitoring and screening for illicit connections and improper discharges. Such plans are to include subsequent measures for the removal and elimination of such known discharges. The following examples document cases where such problems existed and where improvement in water quality was achieved following the elimination of illicit connections. It is important to note that the section 402(p)(2)(E) designation authority can be used to require NPDES permits for any size municipal separate storm sewer system or specific discharges points within the system. This

authority may be useful to address municipal separate storm sewer systems that serve populations of less than 100,000, since those cities are not required to file applications for storm water permits before October 1, 1992.

Example

One recent study performed in Ann Arbor, Michigan concluded that illegal and improper industrial and commercial point source connections to storm drains represents a significant source of pollutants in storm water discharges. Half of the businesses investigated in Ann Arbor had at least one storm drain connection through which potentially hazardous pollutants could enter the storm sewer. Significant improvements in water quality were realized as these connections were removed and the flows shifted to sanitary sewers. Over two-thirds of auto-related businesses such as repair shops, tire stores, service stations and body shops, and half of the car washes investigated had illegal or improper connections to the storm drainage system. Similar municipal separate storm water systems should be considered for designation under section 402(p)(2)(E).

Example

The City of Fort Worth has begun a surveillance program to curb illegal dumping of industrial and domestic waste into the city's estimated 200 storm drains that feed streams flowing to the Trinity River. Over a period of one year, 57 cases of illegal waste dumping by businesses and industries were investigated. Eighteen cases of improper connection of domestic sewage lines to storm drains were discovered. The city has implemented corrective measures and several citations have been issued to violators. The surveillance effort was initiated, after a series of devastating fish kills plagued the Trinity River. Monitoring has shown that diesel fuel, chemical solvents, pesticides, raw sewage and chlorine are present in storm water discharges. Similar storm water corrective measures could be required after the municipal system is designated under section 402(p)(2)(E).

4. MUNICIPAL SEPARATE STORM SEWER DISCHARGES THAT ARE SUSPECTED OF CONTAINING A SIGNIFICANT CONTRIBUTION OF POLLUTANTS.

The characterization of storm water discharges in terms of concentrations and pollutant loads viewed together with water quality standards and National Urban Runoff Program (NURP) data derived from typical urban runoff characteristics, provides an indication of whether the discharge is a significant contributor of pollutants. For instance, the mean concentration is defined as the total constituent mass discharge, divided by the total runoff volume for a rainfall event. These simplified approximations can be used as the basis for designation as a significant contributor of pollutants. Where such specific

information is lacking for a particular municipality, NURP data can be used to make initial screening estimates of pollutant loads associated with municipal separate storm sewers. Using the NURP recommendations for load estimates provided in Attachment A, pollutant loadings can be calculated for a range of pollutant concentrations. As municipal dischargers provide a more accurate estimate of pollutants based on site specific data and the use of more sophisticated models, such as the Storm Water Management Model (SWMM), pollutant concentrations and loads can be compared to NURP and other estimates. Based on the resulting characterizations, discharges from municipal separate storm sewer systems that contain a significant contribution of pollutants can be determined and, where appropriate, considered for 402(p)(2)(E) designation.

Procedures for Designation

On January 12, 1989, (54 FR 246), EPA published a final rule which codified portions of section 402(p), including section 402(p)(2)(E), into EPA regulation at 40 CFR 122.26(a). In addition, on December 7, 1988 (53 FR 49416), EPA proposed revisions to procedures at 40 CFR 124.52 for designating storm water discharges on a case-by-case basis. Until EPA promulgates these regulations, procedures for case-by-case designations should be modeled after existing regulatory procedures at 40 CFR 124.52. The Regional Administrator, or in States with approved NPDES programs, the Director, will notify the discharger in writing that the discharge is being considered for designation and the reasons for the consideration. In addition, an application form is to be sent with the notice.

Until EPA promulgates specific permit application requirements for storm water discharges, operators of storm water discharges considered for designation under section 402(p)(2)(E) should generally submit Form 1 and Form 2C permit applications. For designation of discharges from a municipal separate storm sewer system, Form 1 and Form 2C applications for each outfall may not be appropriate. In this case, the permitting authority may request the applicant to submit information modelled after the permit application requirements for large and medium municipal separate storm sewer systems proposed in the December 7, 1988, notice.

Deadlines for submitting permit applications will be established on a case-by-case basis. Although a 60-day period from the date of notice for submitting a permit application may be appropriate for many designated storm water discharges, site specific factors may dictate that the Regional Administrator or NPDES State provide additional time for submitting a permit application. For example, due to the complexities associated with designation of a municipal separate storm sewer system for a system- or jurisdiction-wide permit, the Regional Administrator

or NPDES State may provide the applicant with additional time to submit relevant information or may require that information be submitted in phases.

Attachment B contains example reports from the "Waterbody System," which is an information system which retains the results of the section 305(b) reports. The 305(b) reporting process is a critical source of information for making determinations under the authority of section 402(p)(2)(E). The data system is now only partially implemented, but beginning with the 1990 305(b) reporting cycle should contain the assessment data for all States.

Regional Offices and States can use data from the 305(b) Waterbody System, the 1988 Lake Water Quality Assessment Report, and other available information characterizing storm water discharges to make determinations under the authority of section 402(p)(2)(E). The permitting procedures should commence as soon as the impact from storm water discharges is recognized. In addition, when industrial permits that regulate only non-storm water discharges expire, they should be evaluated to determine whether storm water discharges need to be addressed.

If you have any questions regarding this matter, please contact Cynthia Dougherty at FTS/202 475-9545 or have your staff contact Mike Mitchell at FTS/202 475-7057.

Attachments

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